

# Wisconsin Coal Use, in Btu, by Economic Sector

## 1970-2010 TRILLIONS OF BTU AND PERCENT OF TOTAL

This table represents a conversion from tons to trillions of Btus. The conversion factor from tons to Btus of coal depends on the type of coal used in the sector. For example, the industrial and commercial sectors use bituminous coal with a high energy content (21.0 to 23.6 MMBtu/ton), where the utility sector uses sub-bituminous coal with a lower energy and sulfur content (19.6 Btu/ton). Utilities use low-sulfur coal to conform to regulations addressing sulfur emissions from utilities.

Year	Residential		Commercial		Industrial		Electric Utility <sup>a</sup>		Total	Total End Use
1970	9.5	2.7%	17.7	5.0%	97.1	27.3%	231.1	65.0%	355.4	124.3
1975	3.8	1.4%	7.1	2.7%	40.9	15.6%	210.5	80.3%	262.3	51.8
1980	2.3	0.7%	4.4	1.4%	47.2	14.5%	270.7	83.4%	324.6	53.9
1985	0.9	0.2%	4.4	1.2%	51.4	13.7%	317.7	84.9%	374.4	56.7
1990	0.4	0.1%	4.5	1.1%	51.9	12.6%	354.5	86.2%	411.4	56.9
1995	0.3	0.1%	3.8	0.8%	47.2	10.2%	412.4	88.9%	463.7	51.3
1996	0.3	0.1%	4.6	0.9%	43.1	8.9%	438.8	90.1%	486.9	48.1
1997	0.3	0.1%	4.6	0.9%	43.2	8.5%	462.0	90.6%	510.1	48.1
1998	0.3	0.1%	4.8	1.0%	41.9	8.4%	448.9	90.5%	495.8	46.9
1999	0.2	0.0%	5.0	1.0%	40.7	8.1%	459.6	90.9%	505.5	45.9
2000	0.2	0.0%	4.8	0.9%	43.0	8.3%	471.4	90.8%	519.4	48.0
2001	0.2	0.0%	4.8	0.9%	45.3	8.7%	471.6	90.4%	521.9	50.3
2002	0.2	0.0%	4.5	0.9%	46.7	9.2%	457.1	89.9%	508.5	51.3
2003	0.2	0.0%	4.7	0.9%	45.6	8.7%	476.6	90.4%	527.0	50.5
2004	0.1	0.0%	4.8	0.9%	47.0	8.7%	485.4	90.3%	537.2	51.9
2005	0.1	0.0%	4.8	0.9%	45.1	8.5%	481.7	90.6%	531.7	50.0
2006	0.1	0.0%	4.8	0.9%	46.7	9.0%	464.1	90.0%	515.7	51.6
2007 <sup>r</sup>	0.1	0.0%	3.9	0.8%	46.6	9.0%	465.4	90.2%	515.9	50.5
2008 <sup>r</sup>	0.0	0.0%	2.7	0.5%	45.5	8.4%	492.6	91.1%	540.8	48.2
2009 <sup>r</sup>	0.0	0.0%	2.0	0.4%	41.1	8.5%	441.4	91.1%	484.5	43.1
2010 <sup>p</sup>	0.0	0.0%	2.2	0.4%	42.1	8.1%	478.7	91.5%	523.0	44.3

<sup>a</sup> Includes petroleum coke co-fired with coal.

<sup>p</sup> Preliminary estimates.

<sup>r</sup> Revised.

**Source:** U.S. Department of Energy, Energy Information Administration, *State Energy Data Report*, [DOE/EIA-0214(94)] (October 1996); *Coal Distribution* [DOE/EIA-0125 (95/4Q)] (1980-1995); Wisconsin Department of Natural Resources, Annual Survey of Point Source Emissions, unpublished (1971-2010); annual reports of various Wisconsin electric generating utilities (1995-2010); U.S. Department of Commerce, Bureau of the Census of Housing (1970, 1980, 1990 and 2000).

**TOTAL  
COAL  
CONSUMPTION  
7.9%**

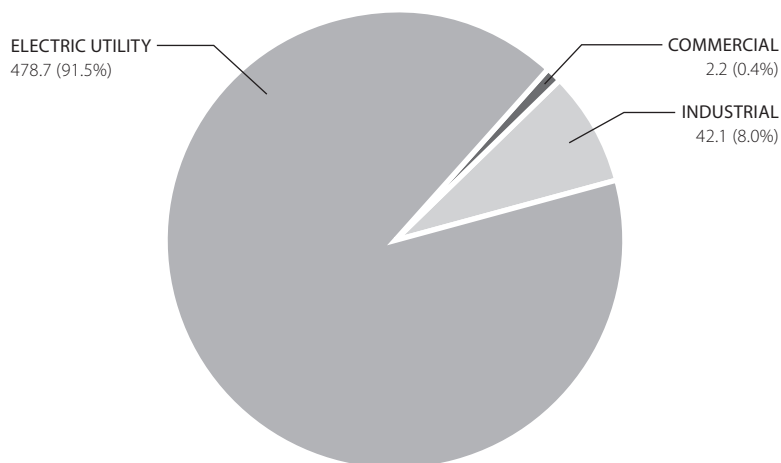
2010 saw an increase in Wisconsin's total coal consumption for all sectors, with an overall increase of 7.9 percent over 2009.

Wisconsin total coal use has increased by 99.4 percent since 1975. Industrial coal consumption increased 2.4 percent in 2010.

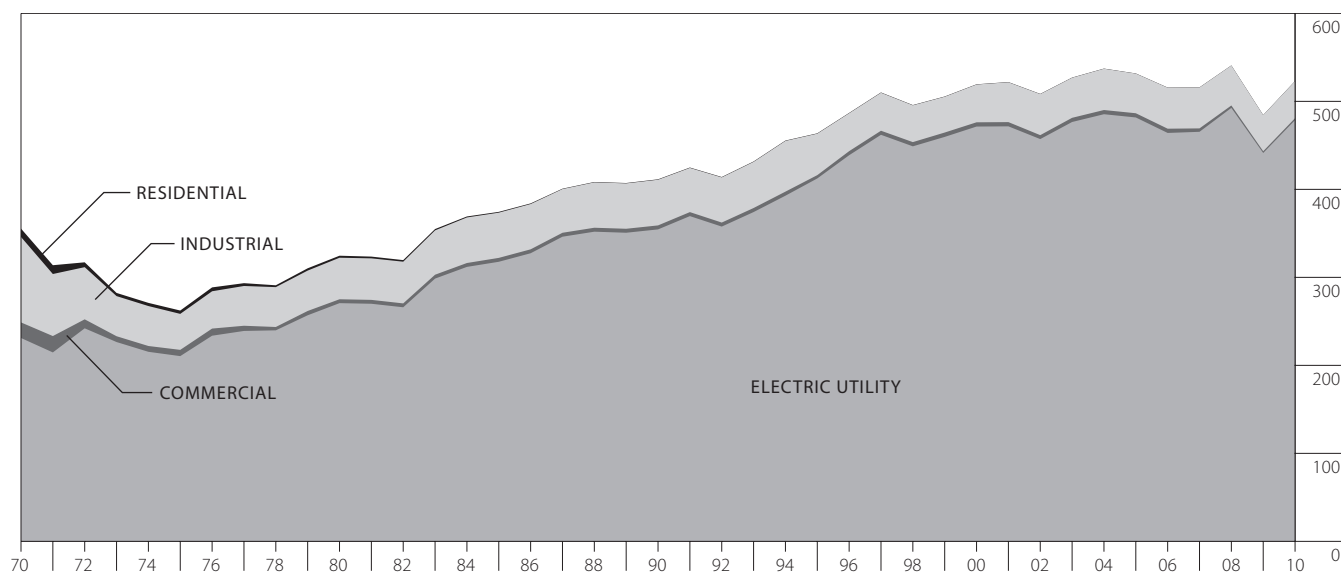
Commercial sector use of coal is limited primarily to state facilities and large institutions, and increased by 10.0 percent.

# Wisconsin Coal Use, by Economic Sector

2010 TRILLIONS OF BTU AND PERCENT OF TOTAL



1970-2010 TRILLIONS OF BTU



Source: Wisconsin Office of Energy Independence.

# Wisconsin Coal Use, in Tons, by Economic Sector

1970-2010 THOUSANDS OF TONS AND PERCENT OF TOTAL

Year	Residential		Commercial		Industrial		Electric Utility <sup>a</sup>		Total
1970	453	2.9%	840	5.4%	3,870	25.0%	10,294	66.6%	15,457
1975	202	1.7%	375	3.1%	1,716	14.2%	9,776	81.0%	12,069
1980	113	0.7%	210	1.3%	2,001	12.5%	13,715	85.5%	16,039
1985	40	0.2%	211	1.1%	2,176	11.7%	16,208	87.0%	18,635
1990	20	0.1%	216	1.1%	2,200	10.7%	18,087	88.1%	20,523
1995	15	0.1%	179	0.8%	1,998	8.6%	21,042	90.6%	23,234
1996	14	0.1%	220	0.9%	1,827	7.5%	22,386	91.6%	24,447
1997	13	0.1%	220	0.9%	1,830	7.1%	23,571	92.0%	25,634
1998	12	0.0%	228	0.9%	1,773	7.1%	22,904	91.9%	24,917
1999	11	0.0%	237	0.9%	1,724	6.8%	23,450	92.2%	25,422
2000	10	0.0%	230	0.9%	1,820	7.0%	24,050	92.1%	26,110
2001	9	0.0%	229	0.9%	1,919	7.3%	24,062	91.8%	26,219
2002	8	0.0%	213	0.8%	1,978	7.8%	23,323	91.4%	25,522
2003	7	0.0%	226	0.9%	1,931	7.3%	24,314	91.8%	26,478
2004	6	0.0%	227	0.8%	1,989	7.4%	24,765	91.8%	26,987
2005	5	0.0%	228	0.9%	1,911	7.2%	24,577	92.0%	26,721
2006	4	0.0%	230	0.9%	1,976	7.6%	23,679	91.5%	25,889
2007	3	0.0%	185	0.7%	1,972	7.6%	23,745	91.7%	25,905
2008 <sup>r</sup>	0	0.0%	131	0.5%	1,927	7.1%	25,132	92.4%	27,190
2009 <sup>r</sup>	0	0.0%	94	0.4%	1,742	7.2%	22,518	92.4%	24,354
2010 <sup>p</sup>	0	0.0%	105	0.4%	1,785	6.8%	24,423	92.8%	26,313

<sup>a</sup> Includes petroleum coke co fired with coal.

<sup>p</sup> Preliminary estimates.

<sup>r</sup> Revised.

**Source:** U.S. Department of Energy, Energy Information Administration, *State Energy Data Report* [DOE/EIA-0214(94)] (October 1996); U.S. Department of Commerce, Bureau of Census, *Census of Manufacturers and Annual Survey of Manufacturers, Fuels and Electric Energy Consumed* (1971-1982); Wisconsin Department of Natural Resources, Annual Survey of Point Source Emissions, unpublished (1971-2010); annual reports of various Wisconsin electric generating utilities (1995-2010); U.S. Department of Commerce, Bureau of the Census of Housing (1970, 1980, 1990 and 2000); [http://www.eia.doe.gov/cneaf/electricity/epa/epa\\_sprdshts.html](http://www.eia.doe.gov/cneaf/electricity/epa/epa_sprdshts.html).

COAL  
USE INCREASED  
**1,959**  
THOUSAND  
TONS

The total weight of coal used in Wisconsin increased by 1,959 thousand tons (8.0 percent) in 2010.

# Wisconsin Electric Utility Coal Use, by Plant

**COAL**  
USE BY  
ELECTRIC  
UTILITIES  
**8.5%**

Coal use by Wisconsin's electric utilities increased 8.5 percent in 2010.

The two largest power plants, Pleasant Prairie and Columbia, used 38.2 percent of the utility coal burned in Wisconsin. The state's newest coal plant Weston 4 (Wisconsin Public Service) used 1,944 thousand tons of coal, is responsible for most of the increased coal consumption and uses 8.0 percent of Wisconsin's utility coal.

A map of Wisconsin's coal transportation routes and major coal plants can be found in the Map Appendix at the back of the book.

## 1975-2010 THOUSANDS OF TONS

Utility / Plant Name	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010 <sup>p</sup>
<b>Dairyland Power Cooperative</b>												
Alma	502	1,188	1,268	1,506	1,231	1,754	2,031	1,950	2,019	2,010	1,732	1,441
Genoa	801	915	914	680	788	928	1,172	1,162	1,083	1,172	985	940
Stoneman	111	74	44	30	0	0	38	23	36	13	13	0
<b>Madison Gas and Electric Co.</b>												
Blount Street	77	144	61	95	137	215	228	103	106	115	15	12
<b>Northern States Power Co.</b>												
Bay Front	52	100	36	45	30	115	152	96	140	132	100	60
<b>Wisconsin Electric Power Co.</b>												
Oak Creek	2,873	2,542	2,528	1,522	2,093	3,410	3,255	3,287	3,238	3,371	2,687	3,670
Pleasant Prairie	0	581	2,564	4,703	5,073	5,295	5,373	4,737	4,963	4,982	4,762	4,730
Port Washington	691	683	348	126	430	641	0	0	0	0	0	0
Valley	536	774	528	463	458	690	780	805	792	761	612	566
<b>Wisconsin Power and Light Co.</b>												
Blackhawk	24	30	8	0	0	0	0	0	0	0	0	0
Columbia	1,025	3,603	2,991	3,665	4,238	4,355	4,274	4,326	4,541	4,563	4,053	4,589
Edgewater	976	1,056	2,112	2,180	2,702	2,531	2,533	2,400	2,810	2,777	2,473	2,624
Nelson Dewey	512	552	541	497	615	580	729	727	657	642	569	632
Rock River	293	245	317	198	253	2	0	0	0	0	0	0
<b>Wisconsin Public Services Corp.</b>												
Pulliam	753	744	489	674	1,130	1,444	1,627	1,620	1,617	1,379	958	1,161
Weston	239	329	1,275	1,555	1,702	1,972	2,143	2,044	1,712	2,859	3,363	3,864
<b>Municipal Utilities</b>												
Manitowoc <sup>a</sup>	142	67	91	116	160	108	140	105	77	240	144	134
Marshfield	90	40	48	7	0	0	0	0	0	0	0	0
Menasha	58	28	25	25	2	10	6	63	110	116	52	0
Richland Center	21	20	20	0	0	0	0	0	0	0	0	0
<b>Total<sup>b</sup></b>	<b>9,776</b>	<b>13,715</b>	<b>16,208</b>	<b>18,087</b>	<b>21,042</b>	<b>24,050</b>	<b>24,577</b>	<b>23,679</b>	<b>23,745</b>	<b>25,132</b>	<b>22,518</b>	<b>24,423</b>

<sup>a</sup> Includes petroleum coke co-fired with coal.

<sup>b</sup> The totals do not always match the sum of the individual plants in this table. The totals are drawn from the federal Energy Information Administration, while the plant-specific data comes from the Wisconsin Department of Natural Resources emissions data. Starting in 2008, the totals reflect the WI DNR data.

<sup>p</sup> Preliminary estimates.

**Source:** Wisconsin Department of Natural Resources, Annual Survey of Point Source Emissions, unpublished (1975-2010); annual reports of various Wisconsin electric generating utilities (1995-2010); U.S. Department of Energy, *Electric Power Monthly* [DOE/EIA-0226 (2009/03)](March 2009).

# Wisconsin Manufacturing Industry Coal Use, by Industry Group

Entries in the table without figures indicate coal tons of less than 500 tons.

## 1971-2010 THOUSANDS OF TONS

SIC Industry Group	1971	1975	1980	1985	1990	1995 <sup>r</sup>	2000	2005	2006	2007	2008 <sup>r</sup>	2009 <sup>r</sup>	2010 <sup>p</sup>
20 Food and Kindred	213	56	64	72	43	10	15	21	21	22	14	12	9
26 Paper and Allied	1,940	1,469	1,737	1,878	1,863	1,825	1,700	1,765	1,833	1,838	1,835	1,648	1,661
32 Stone, Clay and Glass	79	13	8	49	116	120	80	121	116	108	51	61	64
33 Primary Metals	114	50	80	66	95	—	—	—	—	—	27	21	51
37 Transport Equipment	107	35	30	37	32	22	12	4	6	4	—	—	—
<b>Total Manufacturing</b>	<b>2,810</b>	<b>1,716</b>	<b>2,001</b>	<b>2,176</b>	<b>2,200</b>	<b>1,998</b>	<b>1,820</b>	<b>1,911</b>	<b>1,976</b>	<b>1,972</b>	<b>1,927</b>	<b>1,742</b>	<b>1,785</b>

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

**Source:** U.S. Department of Commerce, Bureau of the Census, *Census of Manufacturers, and Annual Survey of Manufacturers* (1972-1981); U.S. Department of Energy, Energy Information Administration, *Coal Distribution* [DOE/EIA-0125 (95/4Q)] (1980-1995); Wisconsin Department of Natural Resources, *Annual Survey of Point Source Emissions*, unpublished (1972-2010).

PAPER & ALLIED  
PRODUCTS  
**93.1%**

Wisconsin's industrial coal use continues to be dominated by paper and allied products, which consumed 93.1 percent of the industrial coal used in 2010.

# Coal Deliveries to Wisconsin Industries, by Region of Origin

## 1975-2010 THOUSANDS OF TONS

Origin <sup>a</sup>	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010 <sup>p</sup>
Eastern PA	39	136	24	4	5	8	137	152	148	141	48	18
Western PA	11	125	192	38	33	11	0	0	0	0	0	0
Northern WV	93	339	150	230	384	75	175	110	98	78	99	93
Ohio	91	129	43	0	10	0	36	18	19	0	0	0
Southern No. 1 (WV and VA)	35	88	2	1	15	190	13	4	0	0	0	2
Southern No. 2 (WV and KY)	1,210	497	757	628	529	326	243	248	261	259	125	173
Western KY	111	127	147	98	196	179	192	193	197	195	97	91
Illinois	515	520	624	300	228	147	101	107	106	135	307	310
Indiana	55	114	89	43	67	52	207	202	215	217	214	194
Western U.S.	11	3	0	0	0	0	0	0	0	0	0	0
CO and NM	0	0	0	0	0	0	190	326	322	203	104	207
Wyoming	24	16	0	346	250	521	368	424	423	446	421	405
Utah	1	0	0	0	0	0	71	27	0	7	12	18
MO and WA	281	220	158	0	15	0	0	0	0	0	0	5
<b>Total</b>	<b>2,477</b>	<b>2,314</b>	<b>2,186</b>	<b>1,688</b>	<b>1,733</b>	<b>1,509</b>	<b>1,733</b>	<b>1,811</b>	<b>1,789</b>	<b>1,681</b>	<b>1,427</b>	<b>1,516</b>

<sup>a</sup> Includes shipments to Wisconsin end users and dealers. Does not include deliveries to Superior Midwest Energy Terminal for trans-shipment from Wisconsin.

<sup>p</sup> Preliminary.

**Source:** U.S. Bureau of Mines, "Bituminous Coal and Lignite Distribution", *Mineral Industry Surveys* (1973-1976); U.S. Department of Energy, Energy Information Administration, *Bituminous and Subbituminous Coal and Lignite Distribution* (1977-1979), *Coal Industry Annual* [DOE/EIA-0584] (2000), *Coal Distribution* [DOE/EIA-0125 (99/4Q)] (1980-1999), *Quarterly Coal Report* [DOE/EIA-0121 (2012/01Q)] (June 2012), [www.eia.doe.gov/cneaf/coal/page/coal/distrib/coal\\_distributions.html](http://www.eia.doe.gov/cneaf/coal/page/coal/distrib/coal_distributions.html).

COAL FROM  
WESTERN U.S.  
**41.9%**

Coal currently used by Wisconsin industry comes primarily from the western part of the country (41.9 percent). There has been a gradual decline in industrial coal use. Industrial coal from Illinois has declined 50.3 percent since 1985.

# Coal Deliveries to Wisconsin, by Transportation Mode and Type of Receiving Facility

COAL  
SHIPPED BY RAIL  
**1.1%**

Coal shipped by rail increased 1.1 percent in 2010 as total coal deliveries to Wisconsin power plants increased commensurately. Most—98.1 percent—of coal is delivered to Wisconsin by rail. The long term increase in coal tonnage shipped by rail reflects the increased use of low sulfur western coal. Use of low sulfur eastern coal shipped by the Great Lakes, and midwest coal shipped by river barge, is expected to continue at near current levels. Changes in Wisconsin coal deliveries will be concentrated in rail deliveries of western coal for electric utilities.

1975-2010 THOUSANDS OF TONS

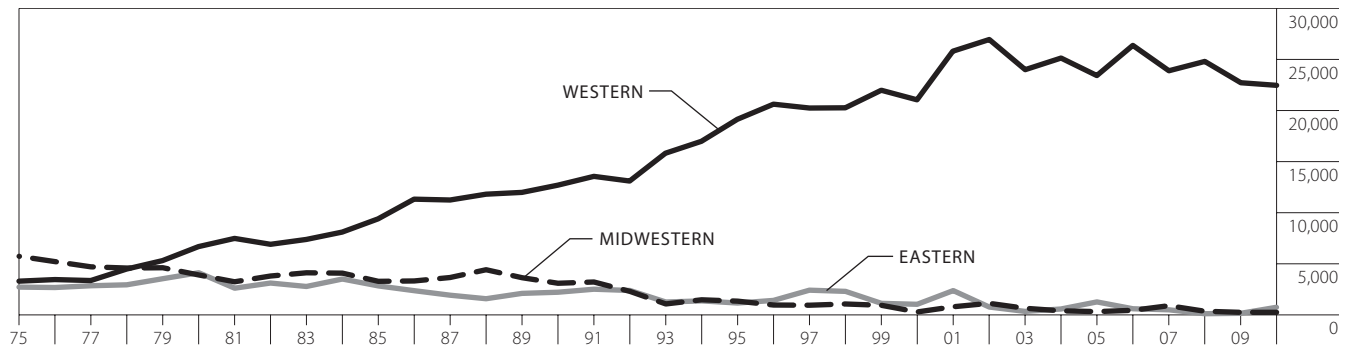
Transportation Mode and Type of Receiving Facility	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010
<b>Rail</b>												
Electric Utilities	7,631	11,140	13,194	17,237	18,815	25,072	21,722	25,181	24,063	24,996	22,761	23,027
Coke Plants	29	11	0	0	0	0	0	0	0	0	0	0
Other Industrial	850	1,047	846	811	772	1,169	1,177	1,441	1,377	1,469	1,299	1,321
Residential/Commercial	170	3	5	1	3	33	417	28	56	96	75	59
<b>Subtotal</b>	<b>8,680</b>	<b>12,201</b>	<b>14,045</b>	<b>18,049</b>	<b>19,590</b>	<b>26,274</b>	<b>23,316</b>	<b>26,650</b>	<b>25,496</b>	<b>26,561</b>	<b>24,135</b>	<b>24,407</b>
<b>Great Lakes Shipping</b>												
Electric Utilities	2,211	1,713	1,118	429	1,005	753	1,572	1,483	518	69	0	0
Coke Plants	224	167	0	0	0	0	0	0	0	0	0	0
Other Industrial	992	981	1,024	822	788	331	46	6	39	0	0	0
Residential/Commercial	212	46	11	1	0	0	0	0	0	40	14	30
<b>Subtotal</b>	<b>3,639</b>	<b>2,907</b>	<b>2,153</b>	<b>1,252</b>	<b>1,793</b>	<b>1,084</b>	<b>1,618</b>	<b>1,489</b>	<b>557</b>	<b>109</b>	<b>14</b>	<b>30</b>
<b>River Barge</b>												
Electric Utilities	1,756	1,487	1,042	855	1,083	32	1,508	401	454	12	103	176
Other Industrial	0	62	246	55	120	4	22	6	18	11	9	12
Residential/Commercial	0	1	10	2	126	129	0	0	0	32	24	19
<b>Subtotal</b>	<b>1,756</b>	<b>1,550</b>	<b>1,298</b>	<b>912</b>	<b>1,329</b>	<b>165</b>	<b>1,530</b>	<b>407</b>	<b>472</b>	<b>55</b>	<b>136</b>	<b>207</b>
<b>Truck</b>												
Electric Utilities	0	0	2	31	0	0	0	144	50	0	60	59
Other Industrial	0	1	45	1	53	5	488	359	355	200	119	184
Residential/Commercial	0	0	0	0	0	0	1	1	0	1	0	0
<b>Subtotal</b>	<b>0</b>	<b>1</b>	<b>47</b>	<b>32</b>	<b>53</b>	<b>5</b>	<b>489</b>	<b>504</b>	<b>405</b>	<b>201</b>	<b>179</b>	<b>243</b>
<b>Total<sup>a</sup></b>	<b>14,075</b>	<b>16,659</b>	<b>17,543</b>	<b>20,245</b>	<b>22,765</b>	<b>27,528</b>	<b>26,953</b>	<b>29,050</b>	<b>26,930</b>	<b>26,926</b>	<b>24,464</b>	<b>24,887</b>

<sup>a</sup> Total data reported in this table may differ from other tables because of different sources. Subtotals may not add due to rounding.

**Source:** U.S. Bureau of Mines, "Bituminous Coal and Lignite Distribution", *Mineral Industry Surveys* (1973-1976); U.S. Department of Energy, Energy Information Administration, *Bituminous and Subbituminous Coal and Lignite Distribution* (1977-1979), *Coal Industry Annual* [DOE/EIA - 0584] (2000), *Coal Distribution* [DOE/EIA-0125 (99/4Q)] (1980-1999) and *Quarterly Coal Report* [DOA/EIA-0121 (2012/01Q)] (June 2012), [www.eia.doe.gov/cneaf/coal/page/coalistrib/coal\\_distributions.html](http://www.eia.doe.gov/cneaf/coal/page/coalistrib/coal_distributions.html).

# Coal Deliveries to Wisconsin Power Plants, by Region of Origin

1975-2010 THOUSANDS OF TONS



# Coal Deliveries to Wisconsin Power Plants, by State of Origin

1975-2010 THOUSANDS OF TONS

State	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010 <sup>p</sup>
<b>Eastern</b>												
Kentucky	2,073	2,816	2,122	196	95	47	758	269	179	0	10	10
Pennsylvania	572	1,007	639	1,760	941	826	0	3	12	0	76	650
West Virginia	5	233	0	136	57	34	252	260	240	12	0	18
Other States	1	0	9	59	0	62	191	2	0	37	0	0
<b>Subtotal</b>	<b>2,651</b>	<b>4,056</b>	<b>2,770</b>	<b>2,151</b>	<b>1,093</b>	<b>969</b>	<b>1,201</b>	<b>534</b>	<b>431</b>	<b>49</b>	<b>86</b>	<b>678</b>
<b>Midwestern</b>												
Illinois	4,857	3,364	1,478	1,136	1,232	0	97	297	686	236	86	183
Indiana	785	205	1,731	1,893	46	221	159	84	146	56	96	3
Ohio	27	272	0	0	0	0	0	0	0	0	0	0
Other States	0	1	9	0	0	0	0	0	0	0	0	0
<b>Subtotal</b>	<b>5,669</b>	<b>3,842</b>	<b>3,218</b>	<b>3,029</b>	<b>1,278</b>	<b>221</b>	<b>256</b>	<b>381</b>	<b>832</b>	<b>292</b>	<b>182</b>	<b>186</b>
<b>Western</b>												
Montana	2,161	2,575	2,235	1,983	2,102	463	591	1,237	1,961	562	548	535
Wyoming	1,053	4,042	7,101	10,605	15,223	19,192	20,581	23,150	19,811	22,569	21,438	21,383
Other States	20	0	0	43	1,758	1,320	2,174	1,907	2,050	1,605	670	482
<b>Subtotal</b>	<b>3,234</b>	<b>6,617</b>	<b>9,336</b>	<b>12,631</b>	<b>19,083</b>	<b>20,975</b>	<b>23,346</b>	<b>26,294</b>	<b>23,822</b>	<b>24,736</b>	<b>22,656</b>	<b>22,400</b>
<b>Total</b>	<b>11,554</b>	<b>14,515</b>	<b>15,324</b>	<b>17,811</b>	<b>21,454</b>	<b>22,165</b>	<b>24,803</b>	<b>27,209</b>	<b>25,085</b>	<b>25,077</b>	<b>22,924</b>	<b>23,263</b>

<sup>p</sup> Preliminary.

Source: U.S. Department of Energy, *Cost and Quality of Fuels for Electric Utility Plants 2000* [DOE/EIA-0191(2001)] (May 2001), and *Quarterly Coal Report* [DOE/EIA-0121 (2012/01Q)] (June 2012), [www.eia.doe.gov/cneaf/coal/page/coalistrib/coal\\_distributions.html](http://www.eia.doe.gov/cneaf/coal/page/coalistrib/coal_distributions.html).

**COAL  
DELIVERIES  
1.5%**

In 2010, coal deliveries to Wisconsin power plants increased 1.5 percent.